

IN THE CLAIMS:

1. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) comprising:

a fluid cylinder (40) axially extending between an inlet end (44) and an outlet end (46) and defining a cylindrical chamber (42) extending therethrough wherein said fluid cylinder (40) includes a first end wall (116) for sealing said chamber (42) proximal to said inlet end (44) and a second end wall (118) for sealing said chamber (42) proximal to said outlet end (46); and

a piston assembly (52) slidably disposed in said cylindrical chamber (42) fluid cylinder (40) for regulating fluid flow between said inlet end (44) and said outlet end (46) and including a first piston (54) having a first forward end (54a) adjacent said inlet end (44) and a first outer annular wall (100) extending from said first forward end (54a); and

said apparatus (10) characterized by said first end wall (116) defining a plurality of apertures (110) adjacent to said first outer annular wall (100) for allowing the fluid to flow around said first outer annular wall (100) and into said piston assembly (52). one of said fluid cylinder (40) and said first outer annular wall (100) defining an aperture (110) for allowing fluid to flow into said piston assembly (52) from said inlet end (44) of said fluid cylinder (40).

2. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 427 wherein said first outer annular wall (100) defines a plurality of apertures (110).

3. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 2 wherein said plurality of apertures (110) are equally spaced along said first outer annular wall (100).

4. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 427 wherein said fluid cylinder (40) defines a cylindrical chamber (42) extending therethrough with said piston assembly (52) slidably disposed in said cylindrical chamber (42).

5. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 4 wherein said fluid cylinder (40) includes a first end wall (116) for sealing said chamber (42) proximal to said inlet end (44) and a second end wall (118) for sealing said chamber (42) proximal to said outlet end (46).

6. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 5 wherein said first end wall (116) defines said aperture (110) adjacent to said first outer annular wall (100) for allowing the fluid to flow around said first outer annular wall (100) and into said piston assembly (52).

7. (Cancelled)

8. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 15 wherein said first end wall (116) comprises a plug (48) coaxial with said first piston (54) and having a diameter less than a diameter of said cylindrical chamber (42) at said inlet end (44) for sealing said chamber (42) at said inlet end (44).

9. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 8 wherein said plug (48) defines said plurality of apertures (110)

adjacent to said first outer annular wall (100) for allowing the fluid to flow around said first outer annular wall (100) and into said piston assembly (52).

10. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 928 wherein said first end wall (116) defines said aperture (110) adjacent to said first outer annular wall (100) for allowing the fluid to flow around said first outer annular wall (100) and into said piston assembly (52).

11. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 1 wherein said first piston (54) defines a cylindrical outer surface (120) and said first outer annular wall (100) coaxially extends from said cylindrical outer surface (120) at said first forward end (54a).

12. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 1 wherein said piston assembly (52) further includes an inner piston (56) concentrically disposed for telescopic sliding movement within said first piston (54).

13. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 12 wherein said piston assembly (52) further includes a stabilizer seal (107) disposed between said first piston (54) and said inner piston (56) for preventing fluid from leaking therebetween.

14. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 1327 wherein said piston assembly (52) further includes a glide ring (108) disposed between said first piston (54) and said inner piston (56) for further preventing fluid from leaking therebetween.

15. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 1 wherein said piston assembly (52) further includes a glide ring (108) disposed between said first piston (54) and said fluid cylinder (40) for preventing fluid from leaking therebetween.

16. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 12 wherein said inner piston (56) defines a flow passage (62) for communicating the fluid between said inlet end (44) and said outlet end (46) of said fluid cylinder (40).

17. (Currently Amended) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 16 further comprising a valve member (66) disposed in said flow passage (62) for regulating fluid flow through said flow passage (62).

18. (Currently Amended) An improved braking system for a vehicle comprising:
- (a) a brake (11, 13);
 - (b) a master cylinder (30, 130) for applying pressure to fluid and supplying the fluid to said brake (11, 13);
 - (c) a hydraulic fluid line (34, 134) extending from said master cylinder (30, 130) for channeling the fluid to said brake (11, 13); and
- (d) a brake pressure intensifying apparatus (10) incorporated into said hydraulic fluid line (34, 134) for exponentially amplifying the pressure of the fluid from said master cylinder (30, 130) to said brake (11, 13) and comprising:
- (i) a fluid cylinder (40) axially extending between an inlet end (44) and an outlet end (46); and
 - (ii) a piston assembly (52) disposed in said cylinder (40) for regulating fluid flow between said inlet end (44) and said outlet end (46) and including a first piston (54) having a first forward end (54a) and a first outer annular wall (100) extending from said first forward end (54a);
- (iii) said system characterized by said fluid cylinder (40) defining a plurality of apertures (110) adjacent to said first outer annular wall (100) for allowing the fluid to flow around said first outer annular wall (100) and into said piston assembly (52). ~~one of said fluid cylinder (40) and said first outer annular wall (100) defining an aperture (110) for allowing fluid to flow into said piston assembly (52) from said inlet end (44) of said fluid cylinder (40).~~

19. (Currently Amended) An improved braking system as set forth in claim ~~18~~³² wherein said plurality of apertures (110) are equally spaced along said first outer annular wall (100).

20. (Currently Amended) An improved braking system as set forth in claim ~~18~~³² wherein said fluid cylinder (40) defines said aperture (110) adjacent to said first outer annular wall (100) for allowing the fluid to flow around said first outer annular wall (100) and into said piston assembly (52).

21. (Cancelled)

22. (Original) An improved braking system as set forth in claim 18 wherein said master cylinder (30, 130) is further defined as a split master cylinder (130) having a first chamber (112) and a second chamber (114).

23. (Original) An improved braking system as set forth in claim 22 further comprising a first split cylinder piston (132) disposed in said split master cylinder (130) for compressing fluid in said first chamber (112) and supplying fluid pressure to said hydraulic fluid line (134) in a first linearly increasing function in response to movement of said first piston (54).

24. (Original) An improved braking system as set forth in claim 23 wherein said brake (11, 13) is further defined as a front brake (11) and said hydraulic fluid line (134) channels the fluid to said front brake (11).

25. (Original) An improved braking system as set forth in claim 24 further comprising a rear brake (13) and a second hydraulic fluid line (135) extending from said

second chamber (114) of said split master cylinder (130) for channeling fluid to said rear brake (13).

26. (Original) An improved braking system as set forth in claim 25 further comprising a second split cylinder piston (138) disposed in said split master cylinder (130) for compressing fluid in said second chamber (114) and supplying fluid pressure to said second hydraulic fluid line (135) in a second linearly increasing function in response to movement of said second split cylinder piston (138).

27. (New) A hydraulic brake pressure intensifying apparatus (10) comprising;
a fluid cylinder (40) axially extending between an inlet end (44) and an outlet
end (46), and
a piston assembly (52) disposed in said fluid cylinder (40) for regulating fluid
flow between said inlet end (44) and said outlet end (46) and including,
a first piston (54) having a first forward end (54a) adjacent said inlet
end (44) and a first outer annular wall (100) extending from said first forward end (54a),
an inner piston (56) concentrically disposed for telescopic sliding
movement within said first piston (54), and
a stabilizer seal (107) disposed between said first piston (54) and said
inner piston (56) for preventing fluid from leaking therebetween, and
one of said fluid cylinder (40) and said first outer annular wall (100) defining
an aperture (110) for allowing fluid to flow into said piston assembly (52) from said inlet end
(44) of said fluid cylinder (40).

28. (New) A hydraulic brake pressure intensifying apparatus (10) as set forth in
claim 6 wherein said first end wall (116) comprises a plug (48) coaxial with said first piston
(54) and having a diameter less than a diameter of said cylindrical chamber (42) at said inlet
end (44) for sealing said chamber (42) at said inlet end (44).

29. (New) A hydraulic brake pressure intensifying apparatus (10) as set forth in
claim 27 wherein said first piston (54) defines a cylindrical outer surface (120) and said first
outer annular wall (100) coaxially extends from said cylindrical outer surface (120) at said
first forward end (54a).

30. (New) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 27 wherein said inner piston (56) defines a flow passage (62) for communicating the fluid between said inlet end (44) and said outlet end (46) of said fluid cylinder (40).

31. (New) A hydraulic brake pressure intensifying apparatus (10) as set forth in claim 30 further comprising a valve member (66) disposed in said flow passage (62) for regulating fluid flow through said flow passage (62).

32. (New) An improved braking system for a vehicle comprising;
- (a) a front brake (11) and a rear brake (13),
 - (b) a split master cylinder (130) having a first chamber (112) and a second chamber (114) for applying pressure to fluid and supplying the fluid to said brakes (11, 13),
 - (c) a hydraulic fluid line (134) extending from said master cylinder (130) for channeling the fluid to said front brake (11),
 - (d) a first split cylinder piston (132) disposed in said split master cylinder (130) for compressing fluid in said first chamber (112) and supplying fluid pressure to said hydraulic fluid line (134) in a first linearly increasing function in response to movement of said first piston (54),
 - (e) a second hydraulic fluid line (135) extending from said second chamber (114) of said split master cylinder (130) for channeling fluid to said rear brake (13), and
 - (f) a brake pressure intensifying apparatus (10) incorporated into said hydraulic fluid line (134) for exponentially amplifying the pressure of the fluid from said master cylinder (130) to said front brake (11) and comprising,
 - (i) a fluid cylinder (40) axially extending between an inlet end (44) and an outlet end (46), and
 - (ii) a piston assembly (52) disposed in said cylinder (40) for regulating fluid flow between said inlet end (44) and said outlet end (46) and including a first piston (54) having a first forward end (54a) and a first outer annular wall (100) extending from said first forward end (54a),

(iii) said system characterized by one of said fluid cylinder (40) and said first outer annular wall (100) defining an aperture (110) for allowing fluid to flow into said piston assembly (52) from said inlet end (44) of said fluid cylinder (40).

33. (New) An improved braking system as set forth in claim 32 further comprising a second split cylinder piston (138) disposed in said split master cylinder (130) for compressing fluid in said second chamber (114) and supplying fluid pressure to said second hydraulic fluid line (135) in a second linearly increasing function in response to movement of said second split cylinder piston (138).